Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

# CROTALOCRINUS CORA (HALL).

AMONG the internal casts of crinoids which occur commonly in the dolomitic Niagaran limestone of northeastern Illinois and southeastern Wisconsin, is a species which was first described by Hall in 1868 under the name *Cyathocrinus cora.* The cotypes of this species, two in number, are recorded from Racine, Wis., and are now preserved in the collections of the American Museum of Natural History in New York. Specimens very much larger than these types frequently occur in the dolomite near Chicago, but they resemble them in all essential characters and all are undoubtedly specifically identical.

The body of this crinoid is more or less subglobular in form, with a large column, and has been but rarely found preserved in any condition other than as internal casts. The plates composing the body are arranged essentially as in members of the genus Cyathocrinus. There are five large underbasals which support five large basals, four of which are hexagonal in outline, the fifth being heptagonal by reason of the truncation of the distal angle for the support of a single subquadrangular anal plate. The radials are large, wider than high, and are in contact laterally, except the two posterior ones, which are separated by the large anal plate. Until the discovery of the specimen illustrated in the present paper, the plates above the radials have never been observed, or at least they have never been recognized as belonging to this species.

In 1900 a single imperfect radial plate of a crinoid, with brachial plates attached, was recognized by Weller as representing the genus Crotalocrinus, and was described under the name *C. americanus.* This specimen is a natural mold of the exterior, and was found associated with *Cyathocrinus cora,* but there was no evidence by which the two forms could be correlated.

There has recently come into the possession of the Walker

Museum, through the generosity of Mr. G. F. Harris, of Chicago, a specimen of the so-called *Cyathocrinus cora*, upon which nearly all of the plates of the calyx are preserved, as well as some of the brachial plates. This specimen demonstrates that the type of *Crotalocrinus americanus* is nothing more than a radial plate with brachials attached of the so-called *Cyathocrinus cora*, and that the latter species must be transferred from the genus Cyathocrinus into Crotalocrinus. This remarkable genus of crinoids, therefore, which has hitherto been considered as such a rarity in the Niagaran fauna of America, proves to be one of the common members of the fauna of this age in Illinois and Wisconsin. It is of especial interest because it is one of those peculiar forms which relates the Niagaran faunas of the interior of North America, so closely with the faunas of Gotland and England.

This American species of Crotalocrinus is most closely allied to *C. rugosus* Miller, *var.*, from Gotland, as illustrated by Angelin.[1] Both have the same subglobular form of calyx, constricted at the top of the radial plates, and both have the same style of surface markings, consisting of shallow furrows which cross the sutures dividing the plates at right angles. In the American specimens these markings are so pronounced as to be usually discernable even on internal casts. The arrangement of the fixed brachial plates in the two species, however, is quite different, if Angelin's illustrations can be depended upon.

In the arm plates of Crotalocrinus the axial canals are a conspicuous feature. In converging toward the base of the arm, these canals unite into a single trunk which pierces the radial plate. The axial canals are well shown in both the specimens preserving the brachial plates, and the casts of the canals are frequently more or less well preserved in the internal casts of the species as it is ordinarily preserved.

The species which has been described as *Cyathocrinus vanhornei* S. A. M. is probably another member of the genus Crotalocrinus. It is known only from internal casts, but these speci-

[1] *Iconog. Crin.*, Plate 17, Figs. 8, 8a.

mens usually preserve the cast of the basal portion of the axial canal where it enters the radial plate. The species differs from *C. cora*, especially in the strong constriction of the calyx at its middle line.

In the light of the observations here recorded, the synonymy of *Crotalocrinus cora* will stand as follows:

**Crotalocrinus cora** (Hall).

1868. *Cyathocrinus cora* Hall, *Twentieth Rep. N. Y. State Cab. Nat. Hist.*, p. 324, Pl. XI, Figs. 13, 14.
1870. *Cyathocrinus cora* Hall *Twentieth Rep. N. Y. State Cab. Nat. Hist.* (Rev. Ed.), p. 366, Pl. XI, Figs. 13, 14.
1879. *Cyathocrinus cora* W. & S., *Rev. Palæocr.*, Pt. I, p. 85.
1881. *Cyathocrinus cora* S. A. M., *Jour. Cinn. Soc. Nat. Hist.*, Vol. IV, p. 171.
1900. *Cyathocrinus cora* Weller, *Bull. No. 4 Nat. Hist. Surv., Chicago Acad. Sci.*, p. 62, Pl. XIV, Figs. 6–10.
1900. *Crotalocrinus americanus* Weller, *Bull. No. 4, Nat. Hist. Surv., Chicago Acad. Sci.*, p. 143, Pl. XIV, Fig. 1.

## EXPLANATION OF PLATE.

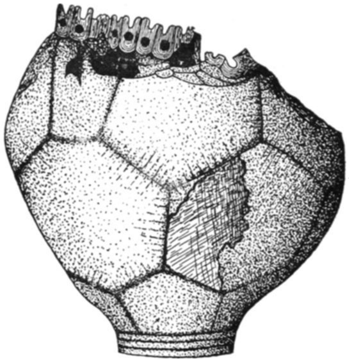
FIG. 1.—A nearly perfect specimen of the calyx of *Crotalocrinus cora* showing the plates of the calyx with some of the brachial plates.

FIG. 2.—An internal cast of *Crotalocrinus cora*, showing the broken bases of the casts of the axial canals where they pierce the radial plates.

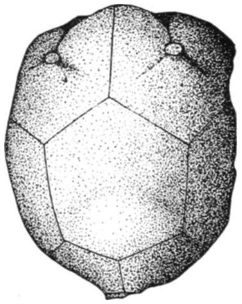
FIG. 3.—An outline of the specimen which was made the type of *Crotalocrinus americanus*, showing the arrangement of the fixed brachial plates in *Crotalocrinus cora*.

FIGS. 4–5.—The casts of two radial plates of *Crotalocrinus cora*, preserving the internal casts of the axial canals.

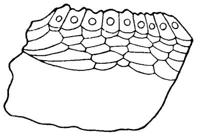
STUART WELLER.



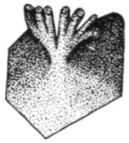
1



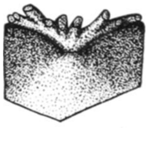
2



3



4



5